



# BUILDING

our principles into actions



## CONTINUOUS IMPROVEMENT IN SUSTAINABILITY REPORTING

Petro-Canada continues to improve the accuracy and full reporting of sustainability performance to our stakeholders.

In 2004, we developed and implemented action plans to address the findings of the assessment work conducted by PricewaterhouseCoopers LLP (PwC) in 2003. The work focused on processes and controls relating to the measurement, calculation, consolidation and reporting of greenhouse gas (GHG) emissions, and of releases and transfers of National Pollutant Release Inventory (NPRI) Criteria Air Contaminants. We also improved the documentation of data management procedures, increased the level and accuracy of reporting required of business units, and enhanced internal quality assurance and quality control procedures. During 2004, PwC reviewed three of our North American Natural Gas business unit's GHG energy efficiency projects. The purpose of this review was to validate the estimated reduction of GHGs and/or improvements in energy efficiency resulting from the projects. PwC provided us with comments on our estimates and recommendations for future projects.

We established a cross-functional working group in the fall of 2004 to co-ordinate and lead the consolidation and reporting of our non-financial performance information. This group is developing recommendations for a multi-year reporting and assurance strategy and implementation plan to guide our continuous improvement efforts.

In 2005, we will engage PwC to further review our processes and controls relating to the measurement, calculation, consolidation and reporting of GHG emissions, and of releases and transfers of NPRI Criteria Air Contaminants. We also asked PwC to consider the reasonableness and consistency of selected sustainability information contained in this Report to the Community, in relation to other information provided to them, and to provide feedback to management. We addressed PwC's suggestions as we finalized the report. PwC's services did not constitute an audit of the sustainability data, and PwC did not express an opinion on the reported information.

## HIGHLIGHTS AND PERFORMANCE

<i>Stated in millions of Canadian dollars, unless otherwise indicated</i>	2004	2003	2002
<b>Financial and operating performance</b>			
Earnings from operations <sup>1</sup>	1,888	1,382	1,005
Net earnings	1,757	1,650	955
Operating return on capital employed (%)	18.8	16.1	14.5
Total production before/after royalties <i>(thousands of barrels of oil equivalent per day)</i> <sup>2</sup>	451/351	465/360	382/295
Petroleum product sales <i>(thousands of cubic metres per day)</i>	56.6	56.8	55.7
Number of employees <i>(at year end)</i>	4,788	4,514	4,470
<b>Environment, health and safety</b>			
Total energy use <i>(millions of gigajoules)</i>			
Upstream	38.1	40.8	45.1
Downstream	63.5	63.5	63.3
GHG emissions <i>(kilotonnes per year)</i>	7,239	7,561	7,728
NPRI reported releases and transfers <i>(kilotonnes per year)</i>	3.4	2.8	1.5
Environmental investments			
Upstream	126.9	113.9	99.0
Downstream	524.4	300.5	219.0
Employee recordable injury frequency <i>(number per 100 workers on site)</i>	0.65	0.69	0.94
<b>Social performance</b>			
Corporate donations <i>(cash and in-kind contributions)</i>	7.0	15.0	6.1

<sup>1</sup> Earnings from operations represents net earnings excluding gains and losses on foreign currency and on disposal of assets, and unrealized gains or losses associated with the Buzzard derivative contracts.

<sup>2</sup> Where the term barrels of oil equivalent or boe is used in this document, it may be misleading, particularly if used in isolation. A boe conversion ratio of six thousand cubic feet per one barrel is based on an energy equivalency conversion method primarily applicable at the burner tip and does not represent a value equivalency at the wellhead.

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<sup>1</sup> Names of some people appearing in photos are found on page 32 of this report.

# At Petro-Canada, we are committed to building our principles into actions.

We believe the responsible development and management of our business is key to delivering lasting value to our stakeholders. Wherever we operate around the world, our goal is to invest and conduct ourselves in a way that is economically rewarding, meets the highest standards of social and environmental performance, and ensures we are a welcomed member of the community.

## OUR AIM IS TO:

### Conduct business with integrity



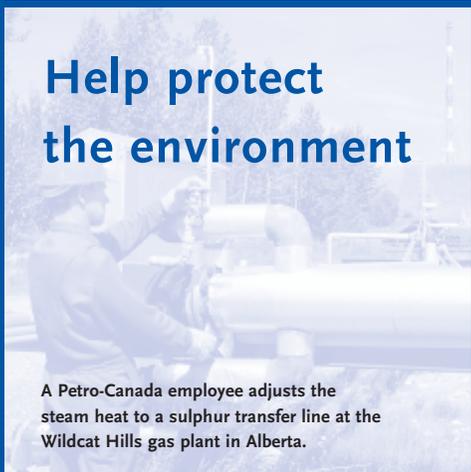
Petro-Canada employees in the International business unit meet with representatives from Veba Oil Operations in Libya.

### Contribute positively to communities



Students at Belfast Elementary School in Calgary plant trees and shrubs in an interactive classroom sponsored by Petro-Canada.

### Help protect the environment



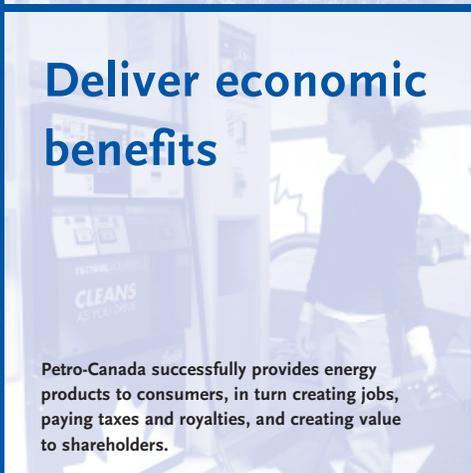
A Petro-Canada employee adjusts the steam heat to a sulphur transfer line at the Wildcat Hills gas plant in Alberta.

### Provide a safe and respectful workplace



This employee has the equipment and training to work safely at the MacKay River *in situ* facility in northern Alberta.

### Deliver economic benefits



Petro-Canada successfully provides energy products to consumers, in turn creating jobs, paying taxes and royalties, and creating value to shareholders.



RON A. BRENNEMAN, PRESIDENT AND CHIEF EXECUTIVE OFFICER

## A Letter to Stakeholders

This year's Report to the Community contains the key words "principles," "action" and "building." All three words are important when it comes to our progress in the area of corporate responsibility.

You will notice this report is organized around our stated principles. We've done this purposefully, because it's the same way we monitor our progress and ensure accountability. While there are many other reporting models in the sustainability community, when we carefully examine our values and what stakeholders measure us against, we believe our principles fit. They are divided into four distinct categories: business conduct, community, environment, and working conditions and human rights.

Our principles are more than a reporting tool – they are the foundation of our daily business conduct. The vice-president for international business development tells me he speaks about, or provides a copy of, our principles whenever he introduces Petro-Canada to a new partner. We share our principles with community members who are deciding whether they want us to operate a facility in their neighbourhood. We did this, for example, at open houses in Gros-Cacouna, Quebec, where we're proposing to build a liquefied natural gas (LNG) re-gasification plant with TransCanada PipeLines Limited. Internally, we make business decisions on the basis of our principles. As we closed our Oakville refinery last year, we worked hard to place most employees in new jobs or to offer early retirement. We also gather feedback on how we apply our principles. At the end of 2004, we asked our employees, and people in communities where we operate, what they thought of Petro-Canada. How much did they trust us? Their positive responses are on page 9 (Corporate Reputation) and page 25 (Employee Engagement) of this report.

Our principles are that much more important as the Company grows, because they direct five unique businesses operating around the world. Few Canadian-based companies have our breadth of operations and geographic reach. This diversity adds complexity to the issues we manage and to our reporting, as issues and reporting conventions can vary greatly from industry to industry, and from country to country. This report reflects our best effort to consolidate information in a sensible and meaningful way. Additional detail and, in some cases, more current information, can always be found on our Web site at [www.petro-canada.ca](http://www.petro-canada.ca).

Most important, our principles drive action. So, what were the highlights at Petro-Canada in 2004? We progressed on a number of fronts. Our injury frequency rates and environmental exceedances continued to drop. We provided business integrity training to a large portion of our employee base. Our corporate governance was recognized as a best practice. We lowered our greenhouse gas emission levels by 4% in 2004, compared with 2003. We continued to invest significant capital to enable our refineries to produce cleaner burning fuels. And, Petro-Canada continued to support communities generously. We invested nearly \$7 million last year in the areas of education, health and community services, environment, and arts and culture.

Are we where we want to be? Not quite.

We had two tragic fatalities in our upstream business in 2004 and we were deeply troubled by these accidents. We went through in-depth analyses to figure out what happened so we can do everything in our power to avoid the type of incidents that can lead to such tragic outcomes. At the end of the day, I believe Zero Harm, which we define as no harm to people, is achievable. Petro-Canada is committed to ensuring a safe, healthy and respectful working environment.

The oily water discharge off the East Coast near the end of the year was very disappointing. However, on a positive note, we took a bad situation and worked hard to turn it around. So much so that our research indicates that, while the community saw the spill as unfortunate, we got full marks for accepting responsibility and handling the response professionally.

It's clear that acting in accordance with our principles is a work in progress – in line with the third key word of this report – building.

Petro-Canada's priorities in 2005 are to improve safety and reliability. To this end, I engaged the support of our senior management team and asked all leaders to include Total Loss Management (TLM) goals in their work plans. Petro-Canada's TLM framework is a systematic set of standards that enable us to identify and control risk in all parts of our business. In our employee value sharing program, approximately 20% of a business unit's contribution to the program is based upon TLM measures and results. Each business will pilot at least two new TLM indicators related to proactive actions on Zero Harm. And we'll share ideas, hosting a safety and health forum on contractor relationships for our employees and contractors from around the world.

Further into the future, we, like others in our industry, must resolve two opposing pressures. On one side, consumers are demanding more energy. On the other hand, citizens of the world want less impact on the environment from the production and consumption of this energy. A wide variety of geopolitical issues make this challenge ever more complex. While there are many issues, I am encouraged that governments, business and consumers around the world are collectively coming to the table. The solutions will need to be collaborative, pragmatic and based on facts. And, at Petro-Canada, we will do our part.

Thank you for taking an interest in Petro-Canada's corporate responsibility principles and actions. I personally share your belief that shareholders and other stakeholders should care equally about how companies behave – the way they demonstrate their values – as they do about the financial returns companies deliver.

To put the three key words together, I commit to you that Petro-Canada will continue to build its principles into actions. And I look forward to reporting on our progress to you next year.



Ron A. Brenneman  
*President and Chief Executive Officer*



(Top) Ron Brenneman helps repair a bench at the Canadian National Institute for the Blind during the United Way's Days of Caring.

(Bottom) A Memorial University student practices in the rehearsal facilities above Petro-Canada Hall in St. John's, Newfoundland and Labrador. The Company donated \$1.2 million, its largest single cash donation ever, to help build one of the most technologically advanced rehearsal performance facilities in the province.

# A Business Overview

Petro-Canada is one of the largest integrated oil and gas companies in Canada, with a growing international presence. In 2004, Petro-Canada achieved record earnings from operations of \$1.9 billion and record cash flow of \$3.7 billion. The Company has a unique breadth of skills due to its integrated portfolio of five strong businesses.

A consistently applied two-part strategy directs Petro-Canada's business. First, we are improving the profitability of our five base businesses by selecting the right assets and driving for first quartile performance. Second, we are taking a disciplined approach to profitable growth by leveraging existing assets, seeking new opportunities with a focus on long-life assets and building a balanced exploration program.

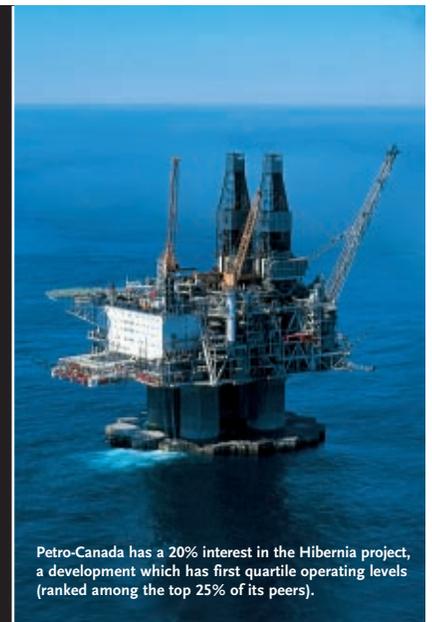
## East Coast Oil

**Petro-Canada is positioned in every major oil development off Canada's East Coast.**

The Company is the operator and holds the largest interest in Terra Nova (34%), and has a 20% interest in Hibernia, the first Grand Banks development. Petro-Canada also holds a 27.5% interest in the White Rose project, scheduled to be on-stream in 2006. In early 2005, Petro-Canada signed an agreement with joint venture partners to advance evaluation of the Hebron oilfields, in which we hold a 23.9% interest.

The East Coast Oil strategy is to strengthen reliability and sustain profitable production well into the next decade. Key features of the strategy include:

- delivering top quartile safety and operating performance;
- sustaining profitable production through reservoir extensions and add-ons; and
- pursuing high potential development projects.



Petro-Canada has a 20% interest in the Hibernia project, a development which has first quartile operating levels (ranked among the top 25% of its peers).



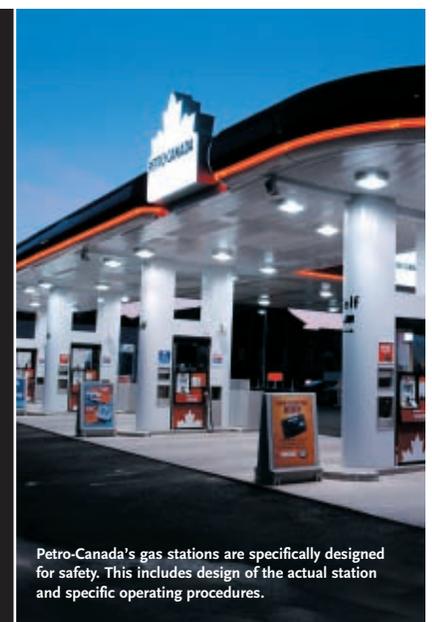
## Downstream

**Our Downstream operations now include two refineries with a total rated capacity of 40,600 cubic metres (255,000 barrels) per day. (We closed our Oakville refinery in April 2005.) We also have a network of 1,600 retail and wholesale outlets, plus a lubricants facility.**

The stand-alone lubricants plant is the largest producer of lubricant base stocks in Canada. We also own an interest in a petrochemical facility. In 2004, Petro-Canada accounted for about 15% of the Canadian industry's total refining capacity and we sold about 17% of all petroleum products in Canada.

The Downstream strategy involves strengthening the foundation for improved profitability through effective capital investment and discipline over controllable factors. The goal is superior returns and growth, including a 12% return on capital employed, based on a mid-cycle business environment. Key features of the strategy include:

- achieving and maintaining first quartile operating performance at our refineries and lubricants plant;
- advancing Petro-Canada as the "brand of choice" for Canadian gasoline consumers; and
- building on market strengths and increasing sales of high-margin specialty lubricants.



Petro-Canada's gas stations are specifically designed for safety. This includes design of the actual station and specific operating procedures.

Yasir Suliman operates one of Petro-Canada's award-winning retail stores.



\*Data and information on pages 4 and 5 has been updated to the end of April 2005.

# North American Natural Gas

The Wildcat Hills natural gas plant in Alberta.



**Our North American Natural Gas business has a long history of exploring for and producing natural gas and natural gas liquids in Western Canada.**

This business also markets natural gas in North America, has established assets in the Mackenzie Delta/Corridor and has landholdings in Alaska. In 2004, the business expanded into unconventional production in the United States (U.S.) Rockies. An agreement to develop a proposed LNG re-gasification facility in Quebec was also signed.

The North American Natural Gas strategy is to be a significant and sustainable market participant by accessing new and diverse natural gas supply sources in North America. Key features of the strategy include:

- continuing exploration and development in existing Western Canada conventional areas;
- increasing focus on unconventional production, which includes coal bed methane and tight gas production, in the U.S. Rockies and Western Canada;
- developing LNG import capacity in North America; and
- building the northern resource base for long-term growth.



# Oil Sands

At Syncrude, bitumen-laden oil sands are mined and then processed into light sweet synthetic crude oil.

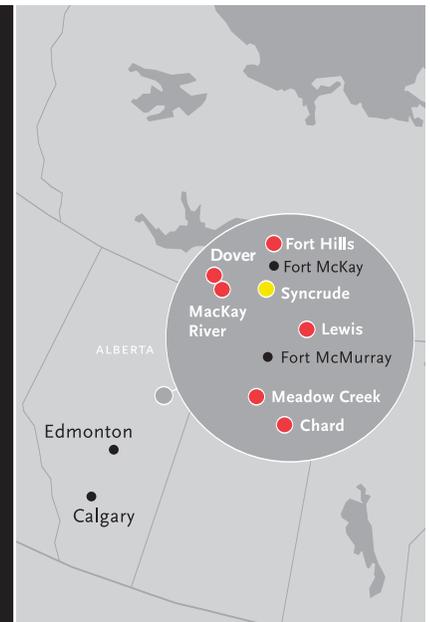


**Major oil sands interests uniquely position Petro-Canada to play a significant role in future oil sands development.**

These interests include: a 12% ownership in the Syncrude joint venture (an oil sands mining operation and upgrading facility), 100% ownership of the MacKay River *in situ* bitumen development (a steam-assisted gravity drainage (SAGD) operation) and an adjacent underground test facility, a 60% owner and operator of the Fort Hills Oil Sands mining project, and extensive oil sands acreage considered prospective for *in situ* development of bitumen resources.

The Oil Sands strategy for profitable growth includes:

- phased and integrated development of reserves to incorporate knowledge gained;
- disciplined capital investment to ensure long-life projects are value creating; and
- a staged approach to development of capital-intensive oil sands projects to allow rigorous cost management and the opportunity to benefit from evolving technology.



# International

North Africa is one of the regions in which the International business operates.



**International production and exploration interests are currently focused in three regions.**

In Northwest Europe, production comes from the United Kingdom and The Netherlands sectors of the North Sea. The North Africa/Near East region provides the major portion of international crude oil production from interests principally in Syria and Libya. In Northern Latin America, operations are concentrated in Trinidad and Venezuela.

The International business is the platform for Petro-Canada's global growth. The strategy is to access a sizable international resource base by:

- expanding and exploiting the existing portfolio of assets;
- targeting new opportunities and acquisitions with a focus on long-life assets; and
- building a balanced exploration program to replace reserves over time.





Peter Hutcheson, senior counsel, co-ordinated online business integrity training for employees in 2004.

BUILDING  
OUR PRINCIPLES  
INTO ACTIONS



Canada's Most  
Respected  
Corporations

Canada's Most Respected Corporations survey is conducted by Ipsos-Reid and invites 263 leading Canadian chief executive officers to indicate the corporations they respect most. Petro-Canada scored well, especially in the areas of financial performance and corporate social responsibility. The Company moved from 25th in 2003 to 15th in 2004.

## Business Conduct

### WE WILL:

- comply with all applicable laws and regulations;
- apply our Code of Business Conduct wherever we operate:
  - not make illegal or improper payments;
  - not participate in any corrupt business practices;
  - conduct business operations with integrity;
  - be sensitive to the cultures and expectations of our host countries and communities; and
  - seek contractors, suppliers and agents whose practices are consistent with these principles.



**“The business integrity training is really helpful and not just for those of us who work internationally. The training ensures we stay true to our principles.”**

HISHAM YAZIGI, GENERAL MANAGER (SYRIA)



## LEADERSHIP AND INTERNAL CONTROLS

We fulfill our business conduct obligations by engaging senior leadership and building systematic processes and controls to guide our business conduct.

### EXECUTIVE CORPORATE RESPONSIBILITY STEERING COMMITTEE

*The newly formed executive corporate responsibility steering committee works to define Petro-Canada’s corporate responsibility strategy and priorities further.*

In 2004, the Principles for Responsible Investment and Operations were reviewed and endorsed as Petro-Canada’s framework to assess and monitor corporate responsibility performance. Other key actions included: evaluating and improving internal management systems to ensure the protection of human rights; communicating expectations to our leaders on business integrity practices; and working to enhance monitoring and reporting of non-financial performance activities. An Aboriginal Council was also established to provide guidance on the implementation of Petro-Canada’s Aboriginal Policy commitments. In 2005, we are exploring opportunities to embed social and environmental considerations further in enterprise risk management, strategic planning and project execution processes.

### CODE OF BUSINESS CONDUCT

*Honesty, integrity and ethical behaviour are the cornerstones of Petro-Canada’s Code of Business Conduct.*

This Code is outlined in a guide called “The Way We Do Business.” All Petro-Canada directors, employees and contractors must read, understand and agree to comply with standards of ethical behaviour set out in the Code of Business Conduct.

Petro-Canada employees are encouraged to disclose and discuss, in an open manner, a variety of business conduct situations with their supervisor, Petro-Canada’s chief compliance officer, or human resources or environment, health and safety leaders. Examples could include when employees are unsure of a decision or how to act, or when they believe the behaviour of others may be inconsistent with standards outlined in the Code. In 2004, Petro-Canada added another point of contact for employees to discuss business conduct situations via a confidential ethics hotline. The hotline is available worldwide 24 hours a day, seven days a week, and is operated by an independent firm. Monthly reports of calls and concerns are distributed to Petro-Canada’s senior officers.

### BUSINESS INTEGRITY

*Training is an important part of ensuring employees and contractors demonstrate the highest standards of business conduct.*

In 2004 and early 2005, close to 500 employees participated in “The Way We Do Business: A Workshop on Business Integrity.” This workshop is for employees and contractors who are involved in International operations, contracting services or products, or consulting with public officials and government representatives.



(Top) A newly formed executive steering committee guides corporate responsibility at Petro-Canada.

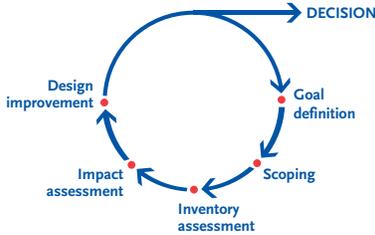
(Bottom) Petro-Canada helped sponsor the 13th annual Middle East Petroleum and Gas Conference in Dubai, United Arab Emirates.

## LIFE-CYCLE VALUE ASSESSMENT

*This business analysis and decision-making tool helps identify, examine and balance the social, environmental and financial implications of proposed projects.*

### Life-Cycle Value Assessment

This tool helps Petro-Canada identify, examine and balance all the implications of proposed projects.



Life-Cycle Value Assessment (LCVA) is one of the key business analysis tools Petro-Canada's employees use to integrate and balance the social, environmental and business decisions we make. LCVA encompasses multiple factors in a new or existing project, from up-front planning through to final reclamation. This includes considerations such as employee health and safety, community concerns, waste reduction and recycling, water usage, air quality and environmental footprint. Robust decisions are made by balancing these factors with financial impacts, such as capital costs, equipment reliability and future project flexibility. LCVA is used extensively throughout the Company's business units, bringing key internal and external players to the decision-making table. The process is usually conducted on a project request basis. In 2004, we broadened the application of this process by integrating LCVA into small projects and change management processes.

Petro-Canada first adopted the LCVA planning methodology in 1997 in consultation with the Pembina Institute for Appropriate Development, an independent public-interest and advocacy organization and non-profit consulting group.

## TOTAL LOSS MANAGEMENT

*Petro-Canada's Total Loss Management (TLM) framework is a systematic approach to clearly and consistently identify management systems and processes required to control risk.*

The TLM Policy and Standards set company-wide standards for employees and contractors, with the goal of eliminating harm to people, the environment, assets and production. The 10 TLM elements are:

- leadership;
- health and safety;
- physical asset systems, integrity and reliability;
- contractor management;
- environmental management systems;
- employee capability, work practices and performance;
- audits and inspections;
- stakeholder relations;
- security and emergency preparedness; and
- event management.

Over the past three years, a senior committee updated the TLM elements to incorporate new learnings, to adapt to our growing organization and to meet evolving external expectations. Seven of the 10 elements are now updated, with the remaining elements to be completed in 2005. The TLM system includes annual self-assessments and regularly scheduled audits. As many of the TLM elements apply to the shared service units, self-assessment were also conducted in these areas in 2004. The audits identify gaps to the standard. Improvement opportunities are then identified and incorporated into annual work plans.

In 2004, we completed TLM audits at Petro-Canada's Montreal and Edmonton refineries, Alberta Foothills natural gas plants, the sulphur-in-gasoline project at Edmonton, the Downstream's process, technology and reliability division, and Petro-Canada's operations in The Netherlands sector of the North Sea. The audit results indicated an increased use of the LCVA process, increased environmental impact assessment efforts, broader application of our stakeholder engagement processes and better use of our event investigation processes. Our security and emergency preparedness processes remain strong. Future efforts will focus on further embedding the TLM system into our International business unit and our shared services groups.



(Top) Significant investment and growth at the Edmonton refinery is being accomplished on the existing footprint – an important consideration to minimize the impact on Strathcona County neighbours.

(Bottom) The Hanze platform in The Netherlands sector of the North Sea participated in a TLM audit in 2004.



We constantly measure and watch that our actions reflect our principles, including reporting back and communicating with our stakeholders in a balanced and open way.

**CHIEF COMPLIANCE OFFICER**

*The office of the chief compliance officer advises employees on how to perform their duties without violating the provisions of global legislation dealing with corruption.*

In 2004, about 1,740 employees participated in online training about their obligations as required by the U.S. Foreign Corrupt Practices Act and Petro-Canada’s Policy for the Prevention of Improper Payments.

Also in 2004, the chief compliance officer led an investigation team composed of our internal auditors and outside counsel to review a matter involving improper payments made by one of our International subsidiaries. Petro-Canada made full, voluntary disclosure of the situation and launched our own investigation. After reviewing the investigation report, and the manner by which Petro-Canada responded to the situation, regulators determined no further action was required.

**CORPORATE GOVERNANCE**

*We strive to meet the highest standards of corporate governance practices based on continuous improvement, accountability and transparency.*

In 2004, the Canadian Institute of Chartered Accountants recognized Petro-Canada for excellence in corporate governance disclosure. We tied with another company for the Award of Excellence in Corporate Governance Disclosure in the Corporate Reporting Awards. And, according to the Globe and Mail, Report on Business “Board Games,” a survey on corporate governance, Petro-Canada ranked 22 out of 218 companies. Our investor relations Web site also ranked among the top five in the country by IR Global Rankings, a group representing audit, corporate governance and legal experts. More information on our corporate governance practices can be found in the investor section of our Web site at [www.petro-canada.ca](http://www.petro-canada.ca).

**CORPORATE REPUTATION**

*A strong corporate reputation is created when our employees act in accordance with our principles.*

Over the past three years, Petro-Canada measured its corporate reputation using the Corporate Reputation Index (CRI). The CRI measure is made up of the percentage of survey respondents providing high scores on three measures (overall reputation today, overall rating of the company, and trust of Petro-Canada). Among three groups of respondents (gas buyers rating downstream companies, gas buyers rating upstream companies and Petro-Canada employees rating upstream and downstream companies), Petro-Canada received the leading CRI. We are also viewed by retail investors as a leader among our peers in contributing to the well-being of Canadian communities.

**CONSUMER PRICING COMMUNICATION**

*Petro-Canada believes consumers need to understand the cost components that go into gasoline pricing at the pumps.*

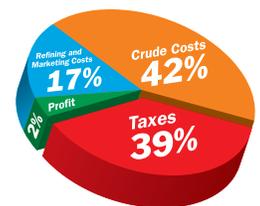
The recent rise in crude oil prices exerted significant upward pressure on gasoline prices. Using 2004 national average retail prices, crude oil and taxes represented more than 80% of the pump price in 2004. Petroleum companies like Petro-Canada impacted about 19% of the retail pump price of gasoline through crude oil, refining and marketing costs. Our profit represented only 2% (or less than two cents per litre) of the cost of a fill-up.

To help customers better understand the costs that are factored into gasoline pricing, Petro-Canada created a decal for all of our retail station gas pumps across Canada. The decal is a pie chart sliced into four segments, which comprise the average Canadian price per litre of gasoline. These include the percentage of taxes, crude oil costs, refining and marketing costs, and profits. In addition to the decal, Petro-Canada’s sales receipts highlight the tax component of every customer’s gasoline purchase. Customers are also invited to pick up a guide to gas pricing available at all Petro-Canada retail stations.

**CUSTOMER SATISFACTION**

*Petro-Canada meets customer needs and continually improves our service by actively monitoring customer satisfaction feedback.*

In 2003, Petro-Canada launched a survey process called Guest Talk. Ongoing Guest Talk surveys enable us to monitor retail site-specific customer satisfaction levels on the quality of service received. We take the results of these monthly surveys and use them to improve the performance of the 945 participating gas stations in our retail chain. In 2004, our station guests completed more than 302,000 surveys, with 89% indicating that they were very satisfied with their retail experience.



Every year, Petro-Canada updates the decal placed on retail gas pumps to explain the cost components going into gasoline pricing. This decal is based on the 2004 Canadian average pump price.

PUMP PRICE DATA SOURCE: MJ ERVIN & ASSOCIATES PETRO-CANADA REFINING & MARKETING PROFIT – AUDITED FINANCIALS

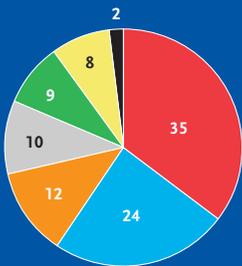


Children of Petro-Canada employees prepare food at the Mustard Seed Street Ministry in Calgary.

BUILDING  
OUR PRINCIPLES  
INTO ACTIONS

**Cash and In-Kind Contributions of Nearly \$7 Million in 2004**

(% – Contribution in North America unless otherwise stated, unaudited)



- Health and Community Services
- Education
- United Way
- Arts and Culture
- Environment
- Olympics/Paralympics
- International Health and Community

# Community

**WE WILL:**

- strive within our sphere of influence to ensure a fair share of benefits to stakeholders impacted by our activities;
- conduct meaningful and transparent consultation with all stakeholders; and
- endeavour to integrate our activities with, and participate in, local communities as good corporate citizens.



**“Relationship building that involves a deep understanding of a community’s historic attachment to the land is an integral part of our Aboriginal relations practice.”**

DON ARMITAGE, SENIOR ABORIGINAL AFFAIRS ADVISOR



## ENGAGING STAKEHOLDERS

Building and maintaining principled relationships with all of our stakeholders is a priority at Petro-Canada.

Stakeholder engagement takes time, transparency, two-way communication and a willingness to listen. Petro-Canada actively seeks input from stakeholders through open house events, face-to-face meetings, workshops, presentations, community newsletters, Web site information, and participation in local and regional initiatives. All operating areas are responsible for developing proactive stakeholder interaction plans and integrating these into their business activities.

### GROS-CACOUNA ENERGY PROJECT CONSULTATION

Petro-Canada and TransCanada PipeLines Limited are partners in a proposed terminal development on the St. Lawrence River designed to import liquefied natural gas (LNG). LNG is natural gas chilled to approximately -160 C to convert it into liquid form, where it occupies significantly less space than in its gaseous form. The terminal site is at Gros-Cacouna, near Riviere du Loup, Quebec. The terminal will re-gasify the LNG for delivery to market and the site was selected based on a detailed study of meteorological and marine conditions. The terminal is expected to play an important role in helping Eastern Canada and the U.S. meet the growing demand for natural gas. The ability to receive new sources of natural gas supply at the terminal is also expected to contribute to more competitive natural gas pricing for Quebec and Ontario consumers.

Since the project was announced in mid-2004, Petro-Canada and TransCanada PipeLines Limited have conducted an extensive, ongoing consultation program to keep the local community informed and to encourage mutually beneficial dialogue. We hosted five open house sessions, distributed detailed community newsletters and created a project Web site.

Petro-Canada and TransCanada PipeLines Limited recognize the value of obtaining input from local residents and proactively applying it to the project development process. For example, at one of the first open houses, residents were asked for advice on where to place noise receptors to measure baseline noise levels. This input helped ensure the baseline noise assessment study, being conducted as part of the environmental impact assessment, reflects the areas where residents were most concerned about potential project noise.

### OAKVILLE REFINERY STAKEHOLDER SUCCESS

In early 2005, the Oakville refinery’s Community Advisory Committee (CAC) was recognized for creating solutions to minimize the impact of refinery operations on residential neighbourhoods. In 1991, the CAC was formed to address stakeholder complaints, primarily related to refinery odours. Solutions that helped build a resilient relationship included the creation of a 1-800 line for residents to report concerns, the adoption of an internal investigation process to followup on every complaint with a mandatory root cause analysis and the introduction of a number of design improvements. These efforts led to a 94% reduction in the number of complaints over the 10 years in which complaints were tracked and analysed by the CAC.



An open house hosted by Petro-Canada and TransCanada PipeLines Limited explains the proposed LNG project to community members in Gros-Cacouna, Quebec.



Petro-Canada employees speak to community members at the Sundre Petroleum Operators Group (SPOG) Neighbours' Day event. SPOG is made up of the provincial regulator, 30 oil and gas companies and 15 community groups. SPOG is an example of what is commonly referred to as a synergy group, a model for how industry and communities can work together on issues.



## ABORIGINAL RELATIONS

Our goal is to establish partnerships with First Peoples that promote education and training, employment, business development and community investment. These elements will help Aboriginal communities build sustainable economic futures and share in the benefits of energy development.

Members of Petro-Canada's Aboriginal affairs team are the front-line representatives who work to establish and foster mutually beneficial relationships with Aboriginal Peoples in and around our operating areas, as well as in a broader Canadian context. To guide relationship development, Petro-Canada continues to enter into formal agreements outlining how we will work together and how to address issues that may arise.

### A GIFT OF MOCCASINS

Twelve Petro-Canada employees recently received a special gift of moccasins from the Halfway River First Nation, representing the success of a different and sustained approach to working with the Aboriginal community in northeastern British Columbia.

Following a period of challenges, a new era began with extensive community work and relationship building undertaken by John Young, manager of Aboriginal affairs, and Chris Dilger, manager, northern development. After numerous community meetings, Petro-Canada signed a jointly developed Co-operation Protocol in January 2003. In May of that year, Petro-Canada hosted a community barbecue and ceremonial signing of the Protocol to mark the occasion and presented members of the community with gifts in the Aboriginal tradition. The improved and sustained relationship between Petro-Canada and the community was confirmed by the delivery, in late 2004, of a pair of elaborately hand sewn and beaded moose hide moccasins to each of the dozen Petro-Canada employees who attended the ceremonial signing.

*"This gift recognizes that the Co-operation Protocol is as important today as it was when it was signed more than two years ago. Petro-Canada intends to be a part of the community for a long time and we want to do the right thing in all our dealings with First Nations people."*

JOHN YOUNG, MANAGER OF ABORIGINAL AFFAIRS

### DRUM DANCING IN ANAKTUVUK

Over the past three years, Petro-Canada worked to establish new relationships with the members of a remote community of 250 people who live in the village of Anaktuvuk Pass on the North Slope of Alaska. Petro-Canada acquired subsurface exploration rights on nearby lands and to date has conducted geological field expeditions in the region. More detailed seismic operations are tentatively expected to start in the winter of 2005-2006 and, if results are promising, drilling may follow.

Petro-Canada employees made several visits to the community to explain our current exploration activity and future plans for energy development in the area. Following a recent community meeting, the local residents performed a ceremonial drum dance, a tradition in which everyone present is invited to participate in the closing dance. In the future, we will work with our new joint venture partner and operator, Anadarko Petroleum Corporation, to build on our positive relationship with this community.



(Top) Petro-Canada employees show off their moccasins.

(Bottom) A young resident of the Anaktuvuk Pass peeks out from behind her Petro-Canada teddy bear after the ceremonial drum dance.



## COMMUNITY INVESTMENT

Investing in the communities in which we conduct business is an integral part of building relationships. We want our presence to generate value and make a positive difference at all levels – grassroots, regional, national and international.

We support education, health and community services, environment, and arts and culture. We use a business-integrated community investment model, working closely with our five businesses to provide support to the communities in which we live and work. Capacity building is a strong theme in our community investment activities, with a specific focus on “developing talent, innovation and expertise through education.”

In 2004, Petro-Canada invested close to \$7 million in cash and in-kind donations in more than 400 Canadian and international non-profit organizations. Included in this amount was nearly \$550,000 to support

Canadian Olympic and Paralympic athletes and coaches through Petro-Canada Olympic Torch scholarships, coaching awards and athletic funding.

Together with our employees, we donated more than \$2 million to United Way campaigns across North America. Through the Volunteer Energy Program, Petro-Canada provided 406 grants of \$500 each to non-profit organizations supported by employees and retirees who give their time to the community. And our employees in North America, along with our Canadian retailers and wholesalers, raised more than \$200,000 for the Red Cross Asian Disaster Relief effort. Petro-Canada matched these contributions. As well, our International business donated £10,000 to the London-based Disasters Emergency Committee to also help with tsunami relief work.

### SAFE WATER FOR DEVELOPING COUNTRIES

More than one billion people in the world do not have access to safe drinking water, underscoring the worldwide need for sustainable water treatment, hygiene and sanitation programs for the poor in developing countries. Petro-Canada's relationship with the Centre for Affordable Water and Sanitation Technology (CAWST) began in 2002, as this Canadian organization was seeking startup funding. CAWST developed an easy-to-use, cost-effective means of filtering water called the BioSand filter. Through a comprehensive training program, CAWST empowers local communities to address their needs for safe water and sanitation.

Petro-Canada initially supported CAWST by providing funding to Mount Royal College in Calgary to create improved, interactive curriculum materials. Local non-government organizations use these materials to deliver services and training to people "on the ground." We continue to be a strong supporter of CAWST, with Petro-Canada's vice-president of human resources and environment, health and safety leading CAWST's first major awareness and fundraising initiative. As water is increasingly an emerging issue for the world, Petro-Canada sees the enormous potential that CAWST has to save lives, improve health standards, and build capacity and local empowerment in the developing world. Since CAWST's creation, the organization has brought cleaner water to more than 400,000 people in 31 developing countries.



Petro-Canada developed the James Worrall Flag Bearer Award so flag bearers could have a record of this once-in-a-lifetime achievement. Petro-Canada presents Chantal Petitclerc, Paralympian, with the 2004 James Worrall Flag Bearer Award.

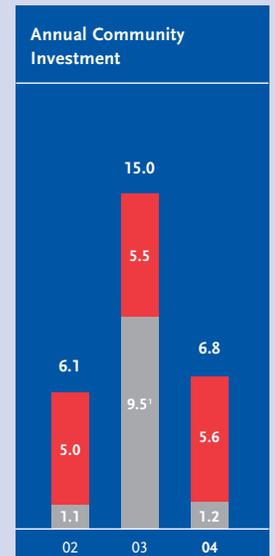


During a training workshop in Haiti, two women learn how to properly install a filter and fill it up with water.

### ECONOMIC CONTRIBUTION TO COMMUNITIES

Petro-Canada's financial performance is an indication of how we successfully provide energy products to consumers. In doing so, we create jobs, support suppliers, pay taxes and royalties to governments, and provide value to shareholders.

<i>\$ million Cdn unless otherwise stated, unaudited</i>	2004	2003	2002
<b>For governments</b>			
Taxes			
Canadian federal and provincial	680	659	729
Property and other	72	64	62
Foreign	744	579	418
<b>Total taxes</b>	<b>1,496</b>	<b>1,302</b>	<b>1,209</b>
Taxes collected minus value-added credits <sup>1</sup>	2,929	2,825	2,689
Royalties			
Canada	525	501	312
United States	11	0	0
International	1,071	995	746
<b>Total royalties</b>	<b>1,607</b>	<b>1,496</b>	<b>1,058</b>
<b>For shareholders</b>			
Dividends	159	106	105
Share buy backs (# of shares)	6,868,082	—	—
Share price (Toronto Stock Exchange)			
At year end (\$)	61.17	63.91	48.91
Range during the year (\$)	56.51-69.49	45.75-64.55	33.90-50.15
<b>For employees</b>			
Total payroll	561.4	547.2	486.8



■ Cash Contributions (\$ millions)  
■ In-Kind Contributions (\$ millions)

<sup>1</sup> In 2003, Petro-Canada turned over the Petro-Canada Research Laboratory, valued at \$6.9 million, to the University of Calgary.

<sup>1</sup> Petro-Canada collects and pays a variety of indirect taxes in jurisdictions where the Company operates. Indirect taxes include value-added taxes, retail sales taxes, fuel taxes, environmental levies and property taxes. These amounts represent approximate indirect taxes collected or directly paid by the Company and its affiliates, excluding International operations and domestic retail sales taxes paid directly to vendors, from significant operations.



Petro-Canada works with other companies, industry organizations and government agencies on energy efficiency initiatives. Here Petro-Canada employees try out Leak Services Inc.'s new HAWK camera. This infrared-type camera can detect gas leaks.

BUILDING  
OUR PRINCIPLES  
INTO ACTIONS



# Environment

## WE WILL:

- conduct our activities consistently with sound environmental management and conservation practices;
- strive to minimize the environmental impact of our operations;
- work diligently to prevent any risk to community health and safety from our operations or our products; and
- seek opportunities to transfer expertise in environmental protection to host communities through our operating, hiring, training and contracting practices.



**“At Petro-Canada, we apply best practices and innovative thinking to minimize our environmental footprint, and bring a balanced approach to our developments and operations.”**

DAVID TAYLOR, MANAGER, EMPLOYEE HEALTH AND SAFETY, WESTERN CANADA



**AIR**

Petro-Canada invests significant capital to ensure our facilities meet stringent air quality and emissions regulations. We continue to apply emission reduction strategies throughout our operations.

Petro-Canada is directing increasing resources and focus to the management of environmental issues, which include air, land and water. Air issues and projects cover an extensive area and include reporting to the National Pollutant Release Inventory (NPRI), reporting of greenhouse gas emissions (GHG) and energy efficiency.

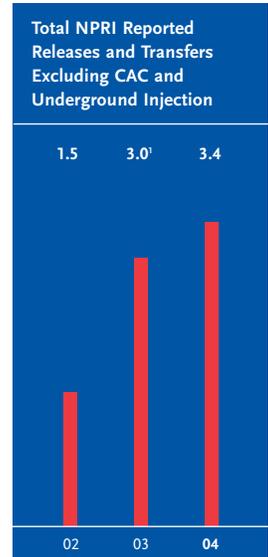
**NATIONAL POLLUTANT RELEASE INVENTORY EMISSIONS**

Since 1993, Petro-Canada has been reporting to the NPRI. New substances are added or modifications are made to reporting requirements on an ongoing basis. In 2004, no changes were made to NPRI reporting requirements.

Petro-Canada supports the use of industry guidance documents for NPRI reporting. The guidance documents provide direction on sources, calculations and assumptions specific to the particular industry sector. The Canadian Association of Petroleum Producers (CAPP) and the Canadian Petroleum Products Institute (CPPI) provide guidance for NPRI reporting for upstream and downstream operations, respectively. The guidance documents are updated annually to ensure the most accurate information is provided to reporters.

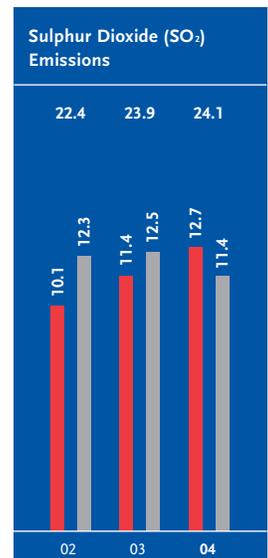
Releases to air, land and water must be reported to NPRI, in addition to providing waste disposal and recycling information. Petro-Canada’s largest releases are those we make to air. The largest volume of air contaminants that we emit are the seven criteria air contaminants (CACs) outlined by NPRI. These include: total volatile organic compounds (VOCs), carbon monoxide (CO), nitrogen oxide (NO<sub>x</sub>), sulphur dioxide (SO<sub>2</sub>), total particulate matter (TPM), particulate matter with a diameter of less than or equal to 2.5 microns (PM 2.5), and particulate matter with a diameter of less than or equal to 10 microns (PM 10).

CAC releases comprise approximately 95% of Petro-Canada’s total NPRI releases. Sulphur dioxide comprises the largest portion of our NPRI releases. In 2004, we emitted a total of 24 kilotonnes from our Canadian operations.



■ (kilotonnes)

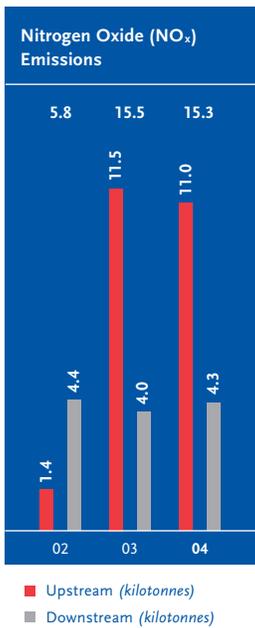
1 This data has changed since the 2003 Report to the Community due to an updated calculation.



■ Upstream (kilotonnes)

■ Downstream (kilotonnes)

<p><b>SO<sub>2</sub> – SULPHUR DIOXIDE</b></p>	<ul style="list-style-type: none"> <li>SO<sub>2</sub> is a natural component of crude oil and natural gas. It is stripped out at refineries and gas plants to deliver clean products to consumers. Almost all the SO<sub>2</sub> is recovered, but a very small amount is released from refineries, gas plants and offshore installations.</li> <li>SO<sub>2</sub> emissions remained relatively constant from 2003 to 2004, increasing approximately 1% since 2003.</li> <li>SO<sub>2</sub> contributes 41% of total CACs released by Petro-Canada.</li> </ul>
<p><b>NO<sub>x</sub> – NITROGEN OXIDE</b></p>	<ul style="list-style-type: none"> <li>NO<sub>x</sub> is released from refineries, gas plants, offshore installations, Oil Sands SAGD and field compression equipment.</li> <li>NO<sub>x</sub> emissions from field compressor stations account for 44% of total NO<sub>x</sub> emissions.</li> <li>Since 2002, NO<sub>x</sub> emissions have tripled due to the change in reporting requirements to add compressor stations.</li> </ul>
<p><b>VOC</b></p>	<ul style="list-style-type: none"> <li>VOCs are released from our refineries, gas plants, offshore installations, Oil Sands SAGD operations, field compression equipment and 11 terminal operations in Canada.</li> <li>Environment Canada defines a VOC to include carbonyl sulphide (COS) and carbon disulphide (CS<sub>2</sub>).</li> <li>VOC releases from gas plants in our North American Natural Gas business and refineries in our Downstream business account for 48% of releases.</li> </ul>



### COMPREHENSIVE CERTIFICATES OF APPROVAL

Any operation in Ontario impacting the environment requires a Certificate of Approval to operate. In 2002, Ontario's Ministry of the Environment (MOE) introduced a new Comprehensive Certificate of Approval (CCA) concept to reduce the number of approvals required for facilities. This concept is primarily applied to air emissions, although it may also be applied for water discharges or land treatment.

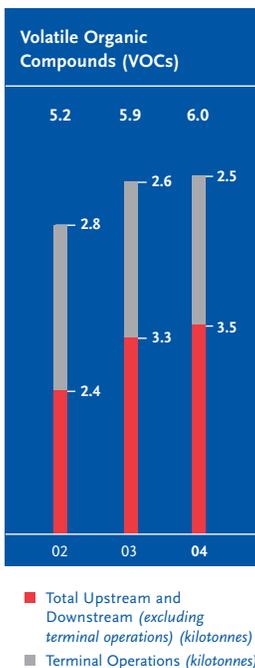
A refinery is a relatively complex operation and could have a large number of CCAs for various operating units within its fence line. The new system is designed to reduce the number of certificates and simplify and streamline compliance. There are additional requirements such as annual reports, emission summaries and public transparency activities. As well, the new certificates must be renewed every five years.

After two years of working and consulting with the MOE and stakeholders, Petro-Canada's lubricants manufacturing facility became, in December 2004, the first refinery in the petroleum sector in Ontario to obtain a CCA for air. This single certificate replaces approximately 45 certificates given to the plant over the last 40 years.

Petro-Canada's retail and wholesale operations applied the same concept and worked with the MOE to replace approximately 50 CCAs given to PETRO-PASS stations and bulk plants for discharge of water into the environment from oil/water separators. A number of unnecessary requirements, such as monthly sampling were eliminated and replaced with best management practices, which are expected to be more operationally stringent. Petro-Canada is the first company in Ontario granted a province wide certificate to operate oil/water separators at different sites.



Petro-Canada reduced consumption of fuel as one of the primary ways we improve our energy efficiency record.



### ENERGY EFFICIENCY

Petro-Canada has a strong record of improving energy efficiency and reducing GHG emissions. Our success in lowering fuel consumption is the primary contributor to our reduced GHG emissions and operating costs. Increased energy efficiency contributes to societal goals of energy security, climate change mitigation and improved air quality. Energy efficiency can also encourage commercialization of Canadian technology.

In 2004, our North American Natural Gas business introduced solar-powered chemical injection pumps in our northeast B.C. and Medicine Hat, Alberta, operations. The solar pumps offer emission-free operation (other than the energy required for the pump's initial manufacture).

Petro-Canada is optimistic about the potential to reduce our methanol consumption in Medicine Hat through ambient temperature monitoring to control chemical injection pumps. We are evaluating this best practice to see if it will fit other operational areas. Petro-Canada continually generates energy efficiency project ideas and looks for ways to leverage these across our operations.

Through Petro-Canada's participation in the Petroleum Technology Alliance Canada, we work with other operating companies to seek out, evaluate and promote new energy efficiency initiatives, as well as share what we have learned from our own achievements. This includes involvement in validating technologies we already use, as well as leading studies to improve the combustion efficiency of existing facilities.

### VERIFYING ENERGY EFFICIENCY EFFORTS

In 2004, Petro-Canada conducted an internal energy audit of the Mississauga lubricants facility which verified that energy efficiency capital projects completed between 2001 and 2003 delivered the kind of energy savings that were forecasted. The audit identified the emphasis Petro-Canada's lubricants facility places on energy conservation as a best practice. This is directly related to the number of energy efficiency projects in place at the facility. Other key contributors to the best practice are the strong energy intensity index improvement, ingrained energy efficiency culture and an energy efficiency committee that meets weekly. The next similar audit is planned for 2007, and will likely include a thorough review of GHG emissions and/or energy use reductions. In the future, we plan on continuing our validation studies with PricewaterhouseCoopers LLP on more energy efficiency/GHG reduction projects.

The Upstream's total energy use decreased in 2004, compared to 2003, due to Terra Nova's extended maintenance activities and operating difficulties in the third and fourth quarters, and reliability of the co-generation facilities at the MacKay River SAGD facility. No significant change occurred in the Downstream's total energy use in 2004.

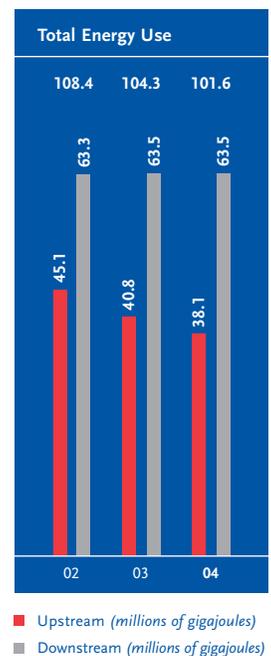
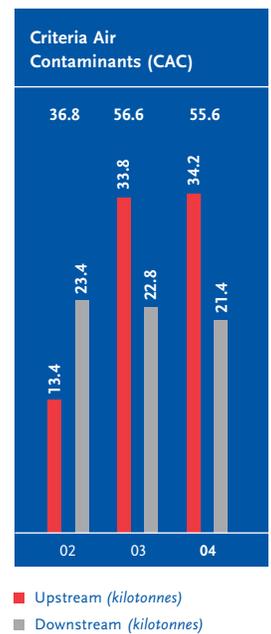
In 2004, the North American Natural Gas business continued to focus on economic energy efficiency projects. These projects, managed through the energy efficiency engineer, resulted in an estimated 2004 energy reduction of more than 357,600 gigajoules saved and associated GHG emissions reductions of 19,700 tonnes of carbon dioxide equivalent (CO<sub>2</sub>E). This was within Petro-Canada's energy efficiency target for 2004.

The Solomon energy intensity index (EII), which is used only in the Downstream business, enables refiners to compare refinery energy efficiency performance against a typical refinery of the same size and complexity of crude oil processing. The index is used to measure the effectiveness of energy conservation. A lower number means a more energy efficient facility.

The increased EII level in 2004, compared with 2003, was mainly due to lower reliability at the Montreal refinery, planned shutdowns at the Edmonton refinery and delays in energy efficiency projects at the lubricants centre. Also, there was an increase in the EII due to a change on the standard calculation of hydrogen plant impacts for the Montreal and Edmonton refineries. This change in calculation was directed by Solomon to all industry members (see graph on page 18).

The production energy intensity (PEI) measure is used only in the upstream sector and is a relative measure that equates the amount of energy used to the level of production. It is based on units of gigajoules per cubic metre of oil equivalent (Gj/m<sup>3</sup>oe). The production carbon intensity measure (PCI) is an indicator of GHG emissions intensity. It is a measure of the amount of GHGs emitted when a cubic metre of oil equivalent is produced.

Overall, 2004 PEI and PCI increased for Petro-Canada's upstream businesses compared to 2003. It is important to note that these indices are divided by production, so as production declines, these indices increase. Such was the impact of declining production in the North American Natural Gas business and in East Coast Oil due to Terra Nova's extended maintenance. Upward pressure on the PEI and PCI also came from higher field compression and total flared volumes in Western Canada. The overall 2004 PCI remained relatively constant in the Downstream business, compared with 2003 (see PEI graph on page 18 and PCI graph on page 19).



## GREENHOUSE GAS EMISSIONS

**Petro-Canada has a strong record of reducing GHG emissions. We focus on technological solutions as a key driver of sustainable and economic emissions reductions opportunities.**

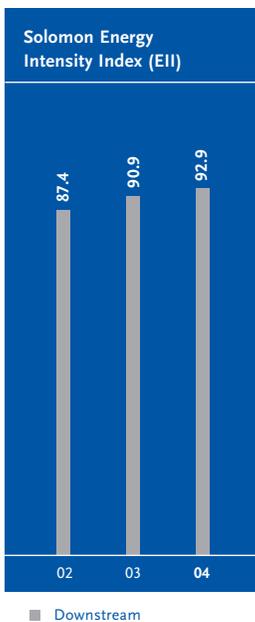
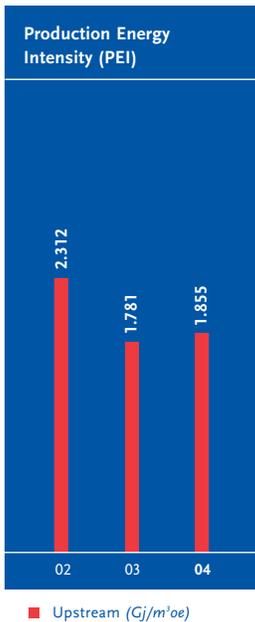
Petro-Canada supports Canadian and international efforts to develop an implementation plan to reduce GHG emissions while protecting economic opportunity and encouraging investment in technological solutions. The federal, provincial and territorial governments in Canada, where most of our emissions are, are in the process of establishing GHG reduction targets for industry and principles for domestic emissions trading. Through CPPI and CAPP, Petro-Canada is actively working to help define targets and principles, and develop practical approaches to regulation and trading regimes internationally.

GHGs, primarily carbon dioxide (CO<sub>2</sub>), are produced by Petro-Canada's operations, largely through the combustion of fuels. This includes the production and processing of crude oil and natural gas, refining of oil into gasoline and other petroleum products, and the marketing of these products.

Petro-Canada has a strong track record of minimizing GHG emissions in its operations. The Company's energy efficiency projects saved more than one million tonnes of emissions since 1990 – the equivalent of taking more than 150,000 automobiles off the road. Petro-Canada also invested in alternative energy technology that could eventually assist in reducing fossil fuel use over time.

Petro-Canada was among the first companies to take a position on climate change, adopt internal targets for improved energy efficiency and participate in the Voluntary Challenge and Registry (VCR), a national program recognizing companies for voluntary GHG reductions. The VCR has now been replaced by mandatory emissions reporting systems. We comply with those systems and with all provincial and federal government requirements.

The first deadline for mandatory GHG reporting to the Alberta government was November 15, 2004. Petro-Canada submitted a GHG report to Alberta Environment for our 2003 calendar year. The report outlined emissions for our facilities that released more than 100 kilotonnes of CO<sub>2</sub> equivalent. The federal government's GHG report deadline is June 1, 2005 for our 2004 calendar year emissions for facilities that released more than 100 kilotonnes of CO<sub>2</sub> equivalent.



A reactor vessel is installed at the Edmonton refinery as part of the diesel desulphurization project. The reactor is a key piece of equipment that will enable Petro-Canada to meet federal regulations requiring diesel fuels to contain no more than 15 parts per million in sulphur in 2006.

Petro-Canada's internal global climate change team reviews emissions mitigation possibilities on an ongoing basis. The team includes representatives from all business segments of the Company. Established in 1998, its purpose is to monitor climate change developments, assess potential impacts on our business, evaluate emissions-reduction opportunities and work with a committee of senior executives to develop appropriate courses of action. It is also charged with developing consistent criteria for evaluating potential energy efficiency and emission reduction projects. This team is particularly active in analysing the impact of potential Canadian federal policies and in evaluating ways Petro-Canada can adjust its business to meet changing public policy objectives.

## BEHIND THE NUMBERS – ENERGY AND GHG<sub>s</sub>

### Corporate – Total

Total GHG emissions reported include indirect emissions, which are emissions from production of the amount of electrical power used in both the upstream businesses and Downstream. In 2004, the third-party co-generation unit at the MacKay River Oil Sands plant was not included in the upstream total GHG emissions.

In 2004, Petro-Canada's total GHG emission levels were only 6% above 1990 levels, despite the fact that combined upstream and downstream production grew by 53% over the same period.

In 2004, our overall GHG emissions declined slightly from 2003, primarily due to improved operations at MacKay River with its third-party co-generation facility and production outages at Terra Nova. We continue to work to achieve GHG emissions reductions in our base businesses (see graph on page 19).

The methodology to quantify GHG emissions is based on industry emissions methodologies, which includes reporting 100% of the emissions for all Petro-Canada operated facilities. For upstream emissions, Petro-Canada used the CAPP Guide (April 2003). Emissions from Downstream operations (refining and marketing) were estimated using Task Force Guidelines for the Petroleum Sector (1995) developed by the Canadian Industry Program for Energy Conservation of the CPPI. International emissions were calculated with the guidelines from The Netherlands Oil and Gas Exploration and Production Association and the International Association of Oil and Gas Producers guide.

### Oil Sands – MacKay River

Overall, GHG emissions were lower at MacKay River in 2004, compared to 2003, despite a 55% increase in barrels per day. This was due to decreased solution gas flaring volumes and improved reliability of operations and production throughout 2004. Reliability improved with steady operations from the 165-megawatt co-generation facility for the second half of 2004.

### North American Natural Gas

Achieving consistent improvement in PEI and PCI continues to be a significant challenge as declining reservoir pressures and increased formation water handling contribute significantly to incremental energy demand. GHG emissions were down about 2%, compared to 2003 values, largely due to lower production volumes in Western Canada.

### International

Petro-Canada's operations in The Netherlands are participating in the European Union's Emission Trading Scheme. The Company has developed energy efficiency plans for both the Hanze offshore platform and the new offshore development (De Ruyter). Both platforms have waste heat recovery units and turbines with higher than current best available technology (BAT) energy efficiency. All existing and new developments are assessed against BAT and a justification is required by authorities to deviate from this standard.

Petro-Canada is also following events in the emissions credit market, which is emerging through the Clean Development Mechanism. Uncertainty surrounding the Canadian regulatory framework means that investments in this area present challenges that are not adequately addressed at this time.

GHG emissions from the International business unit decreased about 8% in 2004, compared to 2003, due to decreased production in Algeria. The reported GHG emissions include drilling operations.

### East Coast Oil – Terra Nova

GHG emissions at Terra Nova in 2004 fell by about 8%, compared with 2003. This was primarily due to both production and reliability being below target due to extended maintenance activities and operating difficulties in the third and fourth quarters. During the third quarter, volumes were impacted by a longer-than-expected turnaround for repairs to the gas compression facilities. Further

downtime occurred in the fourth quarter for investigation and repairs following a discharge of oily water. Following successful maintenance activities, production rates returned to normal levels during the last half of December.

### Downstream

Overall, GHG emissions decreased in the Downstream by about 2%, compared with 2003. A 35-day turnaround related to the Eastern Canada refineries consolidation and a major turnaround at the Edmonton refinery for maintenance and to facilitate construction of low-sulphur gasoline equipment were the major contributing factors in this reduction.



## WATER

Petro-Canada is committed to protecting water resources. We seek opportunities to reduce water consumption or modify processes to reuse water throughout our business.

In 2004, Petro-Canada made significant water conservation strides in Downstream and conventional upstream operations. We made process changes to enable Petro-Canada's Edmonton refinery to use treated water rather than river water. The Company also reduced the amount of water used in water floods.

### CONSERVING RIVER WATER

Petro-Canada, the City of Edmonton, Strathcona County and Alberta Environment developed a new and environmentally superior solution for managing increased water requirements at Petro-Canada's Edmonton refinery. The refinery is currently being modified to meet newly legislated low-sulphur fuel quality specifications.

One method to meet increasing water demand is to withdraw water directly from the North Saskatchewan River and build an on-site water treatment plant. Through discussions with the City of Edmonton and Strathcona County, we developed an alternative where municipal waste water would be incrementally treated, producing high-quality waste water that could be used for industrial use. By effectively using waste water twice, water did not have to be taken from the river.

By the end of 2005, a newly constructed hydrogen plant will use membrane-treated waste water from the City of Edmonton's Gold Bar Waste Water Treatment plant instead of drawing fresh water from the neighbouring North Saskatchewan River. The treated waste water will be used in the production of hydrogen and steam, which in turn will be used to make new low-sulphur diesel fuels. In 2008, the water will also help process alternate feedstocks, such as bitumen and synthetic crude.

This project will avoid additional water withdrawal directly from the North Saskatchewan River and the amount of conventionally treated waste water entering the river from the Gold Bar treatment plant.

*"This project is an example of the three principles that guide Petro-Canada's corporate water usage policies – conservation, protection and recycling."*

ED WITTSTOCK, MANAGER OF INFRASTRUCTURE, OIL SANDS, PETRO-CANADA

Myles Kitagawa, associate director of the Toxics Watch Society of Alberta, commends Petro-Canada for its eco-efficient approach to this project.

*"Petro-Canada's application of innovative systems design reduces the environmental burden of its operations. This beyond-the-fence line thinking creates a potential benefit above and beyond what the original problem required. We hope to see more of this approach in the future."*

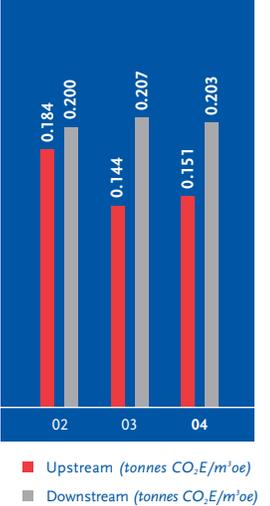
MYLES KITAGAWA, ASSOCIATE DIRECTOR OF THE TOXICS WATCH SOCIETY OF ALBERTA

### VOLUNTARY WATER ALLOCATION REDUCTION

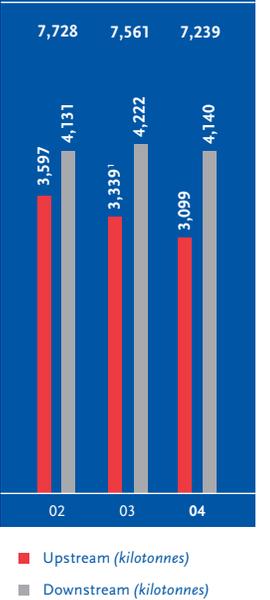
Surface and groundwater is used by Petro-Canada to help extract oil from the earth. The Company only operates three sites in Alberta where water is injected for enhanced oil recovery. In September 2004, we voluntarily reduced overall groundwater allocation in the Ferrier Cardium Unit 3 by 385 cubic metres per day (m<sup>3</sup>/d), from 2,400 m<sup>3</sup>/d to 2,015 m<sup>3</sup>/d. The actual diversion for this water flood is well below the levels allowed by Alberta Environment. Petro-Canada also recycles the produced water from the extracted oil and injects the saline water into the water flood. The recycled water accounts for approximately 10% of the total daily injection.

### Production Carbon Intensity (PCI)

(GHG emissions per unit of production)



### Total GHG Emissions



1 Change from 2003 Report to the Community reflects inclusion of drilling emissions from the International business unit.



A Petro-Canada employee at MacKay River conducts water testing on the pond. The Company uses SAGD in its oil recovery operations and recycles 90% of all water used at this oil sands facility.



The SeaRose FPSO is the vessel that will be used when the White Rose project comes onstream in 2006. The project is located off the east coast of Newfoundland and Labrador. Safety and environment measures are built into its design and operating procedures.

## ☰ SPILLS

Petro-Canada works diligently to reduce the number and volume of spills that occur throughout our operations.

We track all spills of crude oil, refined products, produced salt water and chemicals, regardless of cause and volume. Most spills occur within contained areas of a facility. Spill events are thoroughly investigated, the cause determined and actions implemented to minimize future risk. We have systems in place to inspect and audit facilities used to transport and store oil and other products. This ensures we are prepared in the event of a spill, including cleanup and site restoration plans.

Number of spills over 1 m <sup>3</sup>	2004	2003	2002
Upstream <sup>1</sup>	63	69	28
Downstream	35	38	38
<b>Total</b>	<b>98</b>	<b>107</b>	<b>66</b>

<sup>1</sup> 2004 upstream total includes North American Natural Gas, Terra Nova in East Coast Oil, MacKay River in Oil Sands and International operations.



(Top) Petro-Canada employees volunteer to assist recovered wildlife at the Company's Oiled Seabird Cleaning Centre in St. John's.

(Bottom) A spill response team on the support vessel, the Atlantic Eagle, deployed a sponge-like boom to contain and absorb oil for disposal onshore.

### RESPONSE TO OILY WATER DISCHARGE

On November 21, 2004, an equipment malfunction on Petro-Canada's Terra Nova Floating Production Storage and Offloading vessel (FPSO) resulted in a discharge of up to 165 m<sup>3</sup> of oily water offshore Newfoundland and Labrador. Oil that would normally be separated in the process stream was discharged with the produced water effluent stream.

We immediately suspended oil production at Terra Nova, pending an investigation. Petro-Canada's onshore and offshore emergency response teams responded quickly and contacted the Eastern Canada Response Corporation, our contracted response agency, and Canadian Coast Guard for spill response. Spill response teams and equipment were activated offshore and an aerial surveillance flight was sent to monitor the spill. We used cleanup equipment as soon as sea conditions allowed and the spill pattern was monitored daily by fixed wing aircraft, supply vessels and tracker buoys that were deployed into the slick. Helicopter surveillance and supply vessels monitored wildlife in the area.

Petro-Canada's Oiled Seabird Cleaning Centre in St. John's assisted all recovered wildlife. The centre, staffed primarily by Petro-Canada volunteers, was up and running at the first report of a recovered seabird. In addition to a trained team of responders, the centre benefited from the support of Petro-Canada's veterinarian, Dr. Ron Dunphy, as well as experts from Tri-State Bird Rescue and Research, an internationally recognized support agency located in Newark, Delaware. A total of 10 birds were recovered from the field and were admitted to the facility. Seven birds were successfully cleaned and transferred to environmentalist Stan Tobin and the Newfoundland and Labrador Environmental Association's Rehabilitation Centre for further recovery and waterproofing before being released back into the wild.

The investigation revealed the root cause of this incident centered on an equipment failure in the test separator. We addressed this by implementing equipment upgrades and process improvements, and further evaluating overall safety and environmentally critical systems.

*"We worked hard to build, and then operate, a safe, environmentally responsible and efficient vessel. We identified the root cause of the incident, implemented corrective measures and are committed to applying the lessons learned from this event to strengthen our operations and prevent future incidents."*

GORDON CARRICK, PETRO-CANADA'S VICE-PRESIDENT, EAST COAST (AT THE TIME)



## WASTE MANAGEMENT

At Petro-Canada, waste of all kinds is managed to ensure its production, control and disposal comply with regulatory requirements.

Petro-Canada's North American Natural Gas and Oil Sands businesses use a licensed program called "Waste Tracker" to track all reportable wastes. This program lets the user record and maintain documentation of waste shipments according to regulations. Waste Tracker permits all waste to be defined and tracked according to provincial or federal criteria. Reports can be customized to suit applicable stewardship and regulatory needs.

In our Downstream business, Petro-Canada participates in several recycling initiatives, such as refinery catalyst and waste materials recycling programs. The business is also part of an industry-sponsored effort to improve the collection and recycling of used motor oil from automobiles and commercial sources.



A retail employee participates in Toronto's 20-Minute Makeover, an initiative to beautify the city by picking up trash.



## REGULATORY COMPLIANCE

Operating upsets are carefully reviewed to find out why they occurred, to learn from the situations and to prevent them from recurring. In addition, thorough efforts are applied to minimize any adverse environmental effects.

In the upstream businesses, most environmental exceedances occur due to operating upsets. These may include low stack-top temperature on an incinerator, high SO<sub>2</sub> mass emissions, hourly SO<sub>2</sub> concentration exceedances and ambient air violations resulting from wind and temperature conditions. We made meaningful progress in Petro-Canada's North American Natural Gas business to reduce air licence exceedances. Most of the improvement occurred at Petro-Canada's Brazeau facility, where exceedances decreased from 31 in 2003 to five in 2004. This reduction is the result of a focused effort on learning and improving from past exceedance events and near misses. This included implementation of a team to investigate events and an analysis of exceedances to determine common root causes and systemic issues. Procedural improvements, equipment modifications and staff training also contributed to this sizable reduction.

In the Downstream business, measures are in place to ensure facilities comply with provincial environmental expectations and meet Petro-Canada's commitment to manage the environmental impacts of our operations. These measures include ensuring worker competence, use of sound operating practices and continuous monitoring and stewardship.



Members of the Environment, Health and Safety Committee of the Board of Directors regularly tour Petro-Canada's facilities, such as the Wildcat Hills gas plant, to directly see and learn how the Company addresses stakeholder, environmental and safety issues.

Number of Compliance Exceedances	2004	2003	2002
Upstream <sup>1</sup>	29	57	39
Downstream	13	28	17

<sup>1</sup> Upstream includes North American Natural Gas, Terra Nova in East Coast Oil and MacKay River in Oil Sands.



## ENVIRONMENTAL ENFORCEMENT ACTIONS

Petro-Canada respects all environmental legislation affecting our operations. When an upset occurs, the Company immediately reports the incident to governments, and proactively seeks to remedy the situation and prevent further incidents.

Petro-Canada received two environmental enforcement convictions in 2003\* for our operations at Peterborough, Ontario, which were in violation of s.53(1) and s.30(1) of the *Ontario Water Resources Act*.

In 2004, Petro-Canada was convicted for a release of jet fuel into Burrard Inlet during the loading of a barge at the Burrard terminal in 2002. The conviction was in violation of s.40(2)(a) of the *Fisheries Act*.

\* In 2003, Petro-Canada incorrectly reported that no convictions were received. Currently, the two convictions from 2003 are under appeal with Ontario's Ministry of the Environment. The criterion for reporting environmental enforcement actions in this report is based on the year of an actual conviction. Any actions are recorded in the year the conviction took place, not in the year the event took place.

Petro-Canada regrets this incident and has acted to prevent a similar incident from occurring by making physical improvements at the Burrard terminal to virtually eliminate migration of hydrocarbons to the Burrard Inlet in the event of a future upset or human error.



(Top) An Iogen scientist works with petri dishes of *trichoderma reesei*, the micro-organism Iogen uses to produce its enzymes.

(Bottom) Petro-Canada recently launched an organically certified agricultural spray oil, PURESpray\* Green, an alternative to harmful chemical pesticides.



## ALTERNATE FUELS AND ENVIRONMENTALLY FRIENDLY PRODUCTS

At Petro-Canada, we believe efforts to develop, produce and burn cleaner fuels will go a long way in reducing the impact of oil and gas consumption.

A Petro-Canada partnership with Iogen Corporation, an Ottawa-based biotechnology company, achieved an important milestone in April 2004. Iogen became the first company to put cellulose ethanol (made from waste materials such as straw and wood chips) into commercial production. The first shipment went to Petro-Canada's Montreal refinery, where it was blended into a fuel available at some Petro-Canada retail stations.

Petro-Canada continues to partner with Ballard Power Systems and Methanex Company in the Fuelling a Cleaner Canada Association. The association's mandate is to work with government agencies, co-ordinate independent activities, help ensure adequate funding is available for fuel cell pilot demonstrations and access knowledge from other pilot projects.

Petro-Canada produces a range of gasolines – RegularClean, PlusClean and SuperClean. These gasolines are designed to enhance engine performance, while reducing tailpipe pollutants.

The Mississauga lubricants facility produces a variety of lubricants, drilling fluids and other oil-based products using a patented HT Purity process to remove sulphur, nitrogen, aromatics and other impurities. This HT process produces 99.9% pure base oils. PureDrill\* is an ultra-pure synthetic-based drilling fluid developed and produced to maximize drilling efficiency, improve offshore rig worker health and safety, and minimize environmental impact on natural habitats. Petro-Canada also launched a new generation of hydraulic fluids under the Environ\* brand that are non-toxic, inherently biodegradable, recyclable and specially formulated for use where there are additional environmental, health and safety concerns.

Many of these environmentally superior lubricants were developed at our research facility in Sheridan Park, Mississauga. In 2004, Petro-Canada invested approximately \$17 million in research and development activities.



## PRODUCT SAFETY



Petro-Canada's product safety specialists ensure that material safety data sheets (MSDSs) are created for all the hazardous substances and some non-hazardous substances Petro-Canada produces.

MSDSs provide valuable health and safety information on hazardous substances, including ingredients, toxicology, physical data and safe handling and storage guidelines. The sheets are created in both official languages for the Canadian market and in the language preferred by the countries to which we are exporting our products. The MSDSs meet the legal requirements of the *Workplace Hazardous Materials Information System* legislation for the Canadian market, the "Right to Know" legislation in the U.S., the health and safety legislation of the European community, as well as the legislation of all countries to which we export our products. MSDSs for our complete product line are available and can be downloaded from our Web site [www.petro-canada.ca](http://www.petro-canada.ca).

\* Marque de commerce de Petro-Canada – Trademark



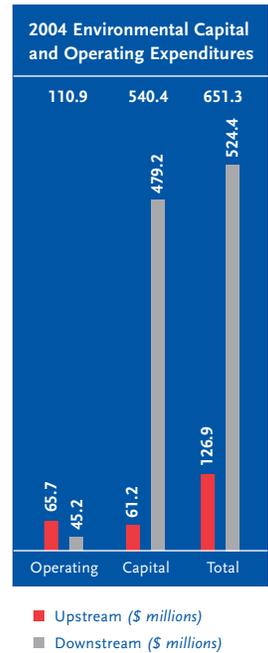
## ENVIRONMENTAL INVESTMENTS AND MORE

Petro-Canada is investing more into its facilities, primarily to ensure cleaner burning fuels for future consumers.

In 2004, Petro-Canada's environmental capital and operating expenditures increased to \$651.3 million, compared with \$414.4 million in 2003 and \$318.0 million in 2002. The most significant expenditure increase was due to our preparations to meet new federal limits for sulphur in gasoline and diesel fuel by January 1, 2005 and June 1, 2006, respectively.

The new gasoline desulphurization unit at the Edmonton refinery was completed and successfully commissioned in 2004. By year end, both the Edmonton and Montreal refineries were producing gasoline in compliance with new federal regulations.

Construction of the diesel desulphurization units are now underway at both the Montreal and Edmonton refineries. We expect environmental costs to remain high as we prepare to meet new federal limits for sulphur in distillate, future reformulation requirements and tighter environmental standards for oil and gas production.



## REMEDIATION AND RECLAMATION

As part of the life-cycle management process, Petro-Canada is committed to ensuring its past, present and future facilities are managed in a responsible fashion.

In 2004, Petro-Canada's Downstream business remediated, reclaimed and sold 31 surplus properties for revenue of approximately \$13 million dollars. After reclamation, these former retail or wholesale properties hold excellent potential for redevelopment into other productive uses. Those properties not yet in a condition to be sold are maintained and environmentally monitored and managed until they are remediated and Petro-Canada chooses to put the property on the market.

Prior to the sale of a surplus property, Petro-Canada completes a site-specific risk assessment designed to provide recognition and information of known and/or potential risks related to environmental contamination resulting from fuel spills and releases. Petro-Canada cleans up the soils and groundwater in compliance with all applicable laws and regulations. The Company also conducts meaningful and transparent consultation with all stakeholders, including regulators, governments and communities.



A soil excavation and back filling project in rural Saskatchewan.



## ISO 14001

Petro-Canada has taken a phased approach to ISO 14001 certification.

ISO 14001 is an internationally recognized environmental management system that provides a framework for continual improvement to reduce the potential environmental impacts of our operations. Environmental programs are developed and enable each employee to understand and participate in the environmental management system.

To eliminate duplication of efforts across our operations, work is underway to ensure that our TLM standards are compatible with ISO 14001 requirements. To date, certification of environmental management systems to the ISO 14001 have occurred at: the Edmonton and Montreal refineries; the Mississauga lubricants centre's blending and packaging operations, and research and development facility; six domestic regional warehouses; and a lubricants sales operation in Europe. This completes certification of all Petro-Canada's major Downstream facilities.



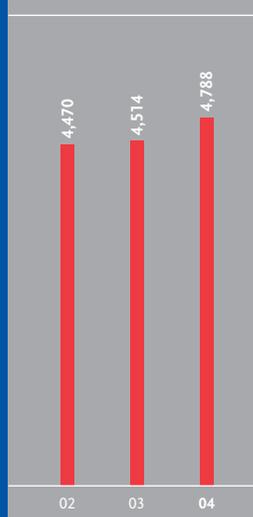
In the spring of 2004, Petro-Canada reclaimed a contaminated stretch of bank along the Bow River around the Wildcat Hills gas plant. Due to the steepness of the riverbank, safety was a major concern. The five-week operation included participation by government agencies and independent contractors.



A Petro-Canada employee wears proper safety equipment and attire while he adjusts a valve at the Edmonton refinery.

BUILDING  
OUR PRINCIPLES  
INTO ACTIONS

Number of Employees  
at Year End



## Working Conditions and Human Rights

### WE WILL:

- provide a healthy, safe and secure work environment;
- honour internationally accepted labour standards prohibiting child labour, forced labour and discrimination in employment;
- respect freedom of association and expression in the workplace;
- not be complicit in human rights abuses; and
- support and respect the protection of human rights within our sphere of influence.



“At Petro-Canada, we believe how we do things is as vital as what we do. That’s the thinking behind Zero Harm and the cultural shift we are embedding into our health and safety efforts across the entire Company.”

CHRIS HANTHORN, ZERO HARM LEADER

Petro-Canada’s values are demonstrated in employee behaviours that are:

**RESULTS-FOCUSED • DECISIVE • TRUSTWORTHY • PROFESSIONAL • RESPECTFUL**



## HUMAN RIGHTS

Petro-Canada’s Principles for Responsible Investment and Operations guide our business conduct, address the protection of human rights and state our support for the Universal Declaration of Human Rights, the United Nation’s Global Compact and the International Code of Ethics for Canadian Business.

Petro-Canada continued to integrate these human rights principles into our business practices throughout 2004. Consultation with external experts, Canadian peers, Amnesty International (Canada), colleagues at the World Business Council for Sustainable Development and FTSE4Good (a London-based social responsibility investment index) helped us better understand best practices and learn from other implementation experiences.

In August 2004, an internal working group was formed and endorsed by Petro-Canada’s executive corporate responsibility steering committee to define our internal framework for the protection of human rights. This process identified two areas where Petro-Canada’s policy and guidelines should be strengthened – the first, regarding the use of security forces and, the second, a recommended improvement in human rights assessment, monitoring and reporting processes. Work progressed in 2004 to develop new security guidelines in consultation with leaders in the International business unit. These guidelines will be reviewed and endorsed by Petro-Canada’s executive corporate responsibility steering committee by mid-2005.

In 2005, additional opportunities are being explored to strengthen other aspects of human rights protection, including community, Aboriginal/indigenous Peoples, and labour and employment. The Company plans on embedding human rights protection into Petro-Canada’s risk-assessment processes.



World Business Council  
for Sustainable Development



## EMPLOYEE ENGAGEMENT AND ORGANIZED LABOUR

We believe employee engagement is a two-way street. It means actively listening and helping employees understand Petro-Canada’s principles, values, strategies, priorities and policies.

Petro-Canada’s employees are loyal to the Company, aligned with our objectives and confident in our future. In a 2004 survey, 85% agreed they would recommend Petro-Canada to others as a good place to work; only 8% disagreed. We consider these excellent results. The company-wide survey went to a random 50% of employees and had a 60% response rate.

At year-end 2004, approximately 24% of Petro-Canada’s employees were covered by collective bargaining agreements. Approximately 90% of the Company’s unionized employees are members of the Communications, Energy and Paperworkers Union (CEP) that represents refinery, marketing, gas plant and offshore production workers. Three-year collective bargaining agreements with most CEP locals will expire on January 31, 2007. Negotiations to reach a first agreement with employees on the Terra Nova FPSO are ongoing.



Executive leaders at Petro-Canada hold town hall meetings with employees to update them about the Company’s progress, reinforce priorities and answer questions employees may have on any number of issues.



These students get work experience through Petro-Canada's ongoing support of a variety of co-op programs.

## BUILDING CAPABILITY

Petro-Canada supports a wide range of learning opportunities for our employees, ranging from job-specific technical training and business system use to participation in industry conferences and post-secondary education.

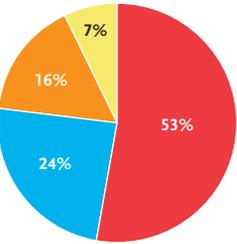
We value learning both in and outside the classroom and strive to position employees in projects and jobs that will enable them to grow.

Developing future leaders is another significant focus area. Petro-Canada established an executive program with the Richard Ivey School of Business at the University of Western Ontario that immerses high potential future leaders in intensive leadership training. Through our annual United Way employee fundraising campaign, high potential employees are seconded into key leadership volunteer positions.

Petro-Canada continues to concentrate on the development of our front-line supervisors, enhancing their abilities through classroom training, online reference materials and readily available coaching.

Petro-Canada actively participates in campus recruiting activities at major post-secondary institutions across Canada to attract talented graduates. In addition, the Company hires many co-op students who work for several months in various Petro-Canada departments to gain “real life” experience to complement their post-secondary studies. In 2004, Petro-Canada received the Dr. Jon Dellandrea Award from the University of Toronto’s co-op program, recognizing the quality of our co-op placements.

Number of Employees by Business Unit  
(as at December 31, 2004)



- Downstream – 2,551
- Upstream – 1,151
- Corporate Support – 764
- International – 322

## EMPLOYEE TOTAL COMPENSATION PROGRAMS

Petro-Canada recognizes the strong link between pay, recognition and performance. We designed our total compensation to be competitive within our industry.

To verify that our compensation packages attract and keep top quality employees, we actively benchmark our industry and the marketplace. Employee benefits are an important compensation factor. We provide benefits that are comprehensive, tax effective and affordable.

In Canada, many of our plans are 100% Company-paid, including defined contribution and defined benefit pension plans; health and dental benefit plans; short-term disability; and basic life and accident insurance plans. Our flexible component includes a savings plan with a health-care spending account and a share purchase program option. These benefits, when combined with elective employee-paid plans, provide employees with a flexible way to meet their unique needs.

Petro-Canada further supports employees in their personal and professional lives by providing access to educational resources, counselling programs, financial and retirement planning, child/elder care programs and, where possible, work arrangements that provide flexibility for employees to attend to life’s many demands.



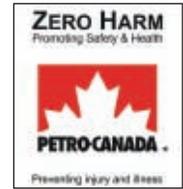
## ZERO HARM

Zero Harm is a way of thinking about workplace health and safety with a new attitude and shared belief – that occupational injuries or illnesses are foreseeable and preventable.

In 2004, Petro-Canada’s business units focused on creating a mature safety culture, acting on recommendations arising from the Zero-Harm forum held in 2003. At that session, about 100 employees and contractors shared best practices in safety and health, and identified areas for continuous improvement. New initiatives introduced as a result of that session and further initiatives determined by the executive leadership team include:

- design of an interactive training module for leaders (in Petro-Canada and key contractor organizations) to enhance understanding of leadership roles and responsibilities in creating a mature safety culture;
- assurance that leaders have Zero Harm priorities and measures in their work plans, which relate to involvement, participation and leading by example;
- enhancement of the “behaviour feedback tool” measures for leaders, to include leadership behaviours which reinforce the Zero Harm mindset;
- inclusion of one new safety measure to supplement what is currently tracked and reported: total recordable injury frequency (contractor and employee combined), plus the piloting of two other measures in 2005, employee engagement in safety and health, and a measure indicating the ratio of actions done to prevent injury and illness in the workplace versus the number of loss events which occur;
- adoption of a common, internationally recognized investigation process, replacing a variety of approaches currently in use;
- development of a new intranet site on Zero Harm for use by all employees and contractors to share knowledge and best practices;
- modification of employee surveys to capture employee perceptions on the maturity of our safety culture, leadership, and the way in which safety concerns are addressed at the work site; and
- design of a second Zero Harm forum for 2005 to explore our ability to partner with contractors to achieve Zero Harm in our workplaces.

New initiatives, current practices and the participation of senior leadership in safety activities all play a role in helping us meet our ultimate goal of a Zero Harm workplace.



## INJURY FREQUENCY

Injury frequency is a key measure used in our industry to evaluate how well safety programs are working. Two of the primary measures are tracking how often injuries occur among employees and contractors.

Recordable injuries are defined as the sum of work related fatalities, permanent total disabilities, disabling injury cases, cases involving restriction of work or motion, medical treatment or loss of consciousness cases. Frequency is calculated from the total number of injuries and the size of workforce, and represents how many injuries there would be if a workforce was 100 people in total. A frequency of 1.0 means, for every 100 workers on site, one person is injured per year.

At Petro-Canada, all injury frequency rates are calculated, reported and reviewed monthly in each business unit. Business unit and overall corporate rates of injury frequency are reported on a quarterly basis to the executive leadership team and the entire Board of Directors.

In 2004, Petro-Canada’s employee recordable injury frequency was 0.65, down slightly from 0.69 in 2003. Our contractor recordable injury frequency decreased to 1.93, from 2.32 in 2003. Since 2001, our combined employee and contractor injury rate declined more than 40%. The North American Natural Gas and Oil Sands business units have focused on completing the design of a safety culture enhancement project. This project includes an employee and contractor behaviour-based safety program.



(Top) Petro-Canada management toured the Fort St. John, B.C., Parkland facility to observe safety protocols and speak to employees about safety issues.

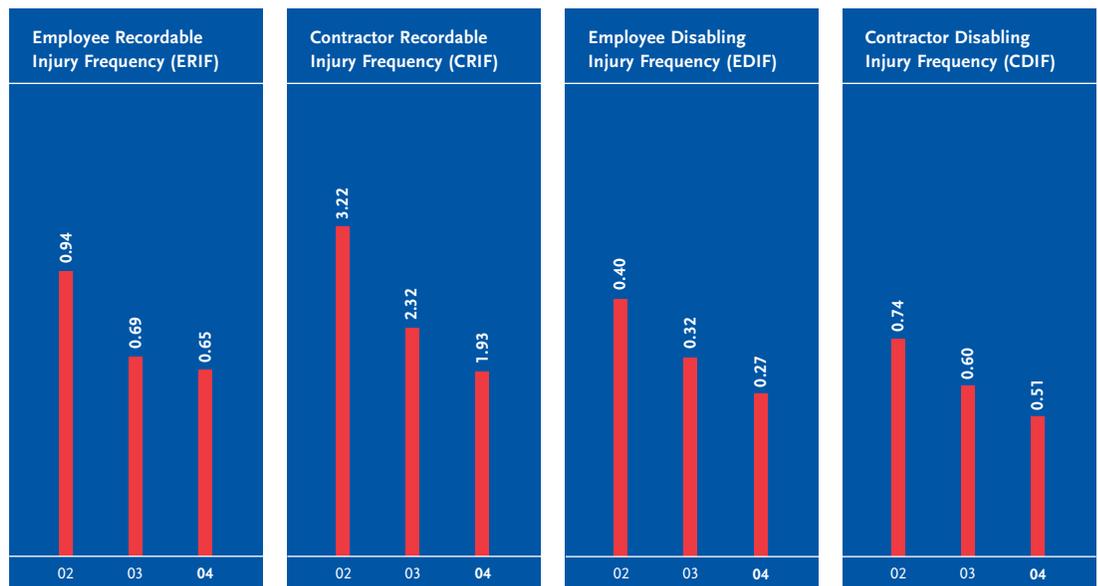
(Bottom) Employees on the Hanze platform celebrated 1,000 days without a single lost-time incident.

In 2004, the sulphur-in-gasoline project at Petro-Canada's Edmonton refinery reached the safety milestone of 1.5 million man hours without a lost-time injury. Bitumen projects passed the quarter million man-hour mark without a lost-time incident.

We continue to engage contractors in our safety processes and build partnerships for improving safety. We also evaluate contractor safety standards and performance prior to awarding contracts.

While our safety performance for both contractors and employees at Petro-Canada continues to improve, two tragic fatalities occurred in 2004. A drilling employee in our U.S. Rockies division was fatally injured in a motor vehicle accident and a contractor was fatally injured while conducting snubbing operations on a new well completion in west central Alberta. State and provincial government agency representatives, along with senior loss control advisors from Petro-Canada, were involved in extensive formal investigations of both events. As a result, certain recommendations and corrective measures were identified and implemented in an effort to ensure similar incidents do not re-occur. Many of the recommended changes are applicable industry-wide, and Petro-Canada provided the appropriate industry associations with the findings.

Petro-Canada's employees, management and Board of Directors were deeply saddened by these two tragic events.



## + OCCUPATIONAL HEALTH SERVICES

Petro-Canada supports and encourages our employees to return to work as soon as possible after an illness or injury, provided that it does not present a risk to the individual, co-workers or society.

Although some illnesses prevent individuals from being able to return immediately to full-time employment, extended absence from the workplace can be detrimental to an employee's mental, physical and social well-being.

Where possible, Petro-Canada is prepared to provide flexible work arrangements, including modified tasks and schedules to meet the temporary or permanent needs of our employees.

Occupational health professionals work with the employee, supervisor and human resources to develop and support suitable return-to-work plans, while preserving confidentiality of medical information.

Employees and their families may also access the Employee and Family Assistance Program, which provides confidential counselling to help resolve issues that impact employees' personal and professional lives.



Petro-Canada employees at all of our facilities regularly conduct exercises and drills to reinforce and verify our emergency response capabilities.

These drills are called Tier I, Tier II and Tier III, depending on the severity of the incident. Tier I emergency drills are held throughout the year to test the ability of our operational employees to respond to local emergency situations.

In 2004, we staged seven scheduled regional Tier II exercises and one Tier III exercise. In addition, our regional Tier II teams were activated three times in response to unplanned events. Our Oil Sands MacKay River plant responded to several nearby forest fires threatening the facility during the summer. Onshore and offshore emergency response teams responded to an oily water discharge from the Terra Nova FPSO on the Canadian East Coast in November. Also in November, our Western Canada and U.S. Rockies teams each responded to incidents. The Western Canada incident involved a fatality and two injuries. The U.S. Rockies incident involved one fatality.

### BUILDING EVACUATION PRACTICE

During the summer of 2004, an electrical short in the alarm system of the Petro-Canada Centre in Calgary put the two towers, which house about 5,200 employees and other tenants, into evacuation. It was not a real emergency, however, evacuation procedures were not followed and the towers were not completely or properly evacuated. Following this event, a root cause analysis was performed. As a result, Petro-Canada Centre's Life Safety Manual (LSM) was rewritten and reformatted for ease of use and made available on the employee intranet. Petro-Canada's president and chief executive officer, Ron Brenneman, requested all Calgary managers meet with their employees to review the LSM and ensure employees are fully conversant with proper evacuation procedures. When a planned full tower evacuation exercise was conducted in the fall of 2004, full evacuation was successfully achieved in only 22 minutes.

### EMERGENCY PLANS FOR BUSINESS PROCESSES

Various business units within Petro-Canada develop emergency response plans to protect business processes. This effort has been ongoing during the past three years and complements the Information Technology Disaster Recovery Plan implemented after the Y2K preparation year. Over the past three years, the corporate groups in Calgary annually held a one-day business interruption exercise to test our ability to maintain critical business activities, should access to the building in Calgary be prevented. Offices throughout our international network are preparing similar plans.

### RETAIL SITE SAFETY

Petro-Canada has a long track record of designing safe service stations. Recognizing that safety at retail sites is a primary concern and an industry-wide issue, Petro-Canada has been proactive in taking appropriate safety measures for both customers and employees. In recent years, the Company changed its service station design with safety in mind.

The new design is based on CPTED – Crime Prevention Through Environmental Design. As a result, gas stations are bright, well-lit and have good lines of sight inside and outside of the stores. Staff can see out and anyone driving by (such as the police) can see in. Raised platforms make employees taller than their customers and allow staff to easily see around their stores. The location where customers pay is located at the fronts of stores so employees can talk and make immediate eye contact with customers. Intercoms, surveillance cameras, increased numbers of staff during peak hours, uncluttered landscapes and an improved traffic flow round out the list of subtle environment changes that create safer gas stations. As well, employees are encouraged to follow a number of standard operating procedures designed specifically for retail security and to take advantage of security training programs, local police forces and the Company's in-house security team.



Petro-Canada Centre is a 1,945,000-square-foot building with two office towers of 32 floors and 52 floors. Petro-Canada occupies more than 30% of the space in the towers.



One of Petro-Canada's recently re-designed service stations.

# Glossary

**Barrels of oil equivalent (boe)**

A volume of gas expressed as its energy equivalent in barrels of oil. Approximately 6,000 cubic feet of gas equal one barrel of oil equivalent.

**Canadian Association of Petroleum Producers (CAPP)**

The upstream industry's professional association representing 150 companies who explore for, develop and produce more than 98% of Canada's natural gas, crude oil, oil sands and elemental sulphur.

**Canadian Petroleum Products Institute (CPPI)**

The professional association for Canadian companies involved in the refining, distribution and/or marketing of petroleum products.

**Carbonyl sulphide**

A colourless gas released as a byproduct during the sulphur recovery process at sour gas plants.

**Carbon disulphide**

A colourless gas released as a byproduct during the sulphur recovery process at sour gas plants.

**Coal bed methane**

Natural gas trapped inside and produced from coal seams.

**Cogeneration**

The simultaneous production of electrical energy and another form of useful thermal energy, such as steam or heat, from the same source.

**Criteria air contaminants**

A group of common air contaminants regulated by the Canadian Environmental Protection Agency. The seven criteria air contaminants are: total volatile organic compounds (VOCs), carbon monoxide (CO), nitrogen oxide (NO<sub>x</sub>), sulphur dioxide (SO<sub>2</sub>), total particulate matter (TPM), particulate matter with a diameter of less than or equal to 2.5 microns (PM 2.5), and particulate matter with a diameter of less than or equal to 10 microns (PM 10).

**Downstream**

The sector of the petroleum industry that includes refineries, petrochemical companies, natural gas distribution utilities, refined oil product wholesalers and retail sites.

**Energy intensity index**

A measure used in Petro-Canada's upstream business to gauge energy efficiency by equating the amount of energy used to the level of production. It is based on units of gigajoules per cubic metre of oil equivalent (Gj/m<sup>3</sup>oe).

**Enhanced oil recovery**

A process to increase oil production using methods or materials that are not part of regular pressure maintenance or water flooding procedures.

**Floating production storage and offloading vessel (FPSO)**

A ship-shaped production platform where oil can be offloaded to shuttle tankers. Petro-Canada's Terra Nova project is the first in North America to use an FPSO to produce and offload oil and gas in the harsh environment offshore Newfoundland and Labrador.

**Greenhouse gas emissions (GHG)**

A wide variety of gases that include carbon dioxide, methane and nitrous oxide that are believed to be trapping heat near the earth's surface and are the result of fossil fuel combustion.

**Liquefied natural gas (LNG)**

Natural gas cooled to a temperature of -160 C, which converts it into liquid form and significantly reduces its volume.

**Micron**

One millionth of a metre or one ten-thousandth of a millimetre.

**National Pollutant Release Inventory (NPRI)**

Legislated under the *Canadian Environmental Protection Act*, the NPRI requires companies to report information on the release and transfer of pollutants to the Government of Canada on an annual basis.

**Nitrogen oxide**

Nitrogen and oxygen in air at high temperatures can combine to form nitrogen oxides (NO<sub>x</sub>). Some fuel combustion and some industrial processes produce NO<sub>x</sub>.

**Re-gasification**

A simple reheating process usually conducted at liquid natural gas terminals to convert the -160 C liquid gas back into gaseous form, before sending it into a natural gas shipping pipeline.

**Sulphur dioxide**

A chemical compound that is formed when sulphur-containing fuels, like oil and coal, are burned.

**Total loss management (TLM)**

A systematic set of standards that enables Petro-Canada to identify management systems and processes required to control risk in all of our businesses.

**Total recordable injury frequency**

The sum of work-related fatalities, permanent total disabilities, disabling injury cases, cases involving restriction of work or motion, medical treatment or loss of consciousness cases. Companies calculate total recordable injury frequency from the total number of injuries and the size of the workforce. The number represents how many injuries there would be if a workforce was 100 people in total. A frequency of 1.0 means, for every 100 workers on site, one person is injured per year.

**Upstream**

The sector of the petroleum industry in which companies explore for and produce oil and gas.

**Volatile organic compounds (VOCs)**

Organic chemicals contain carbon, one of the building blocks of all living matter and in products derived from living matter, such as coal, petroleum and refined petroleum products. Volatile chemicals produce vapours easily at room temperature and normal atmospheric pressure and include gasoline, industrial chemicals such as benzene, and solvents such as toluene and xylene.

**Water flood**

The process of recovering oil from a reservoir by injecting water into the reservoir to displace the oil and move it out. For every cubic metre of water injected, a cubic metre of oil is recovered.

## NAMES OF PEOPLE APPEARING IN PHOTOS

**Cover photo** of plane, left to right: Nagi Zeid, Ali Sweissi, Ali Bezabes, Joerg Pigaht, Peter Kallos, Mohamed Meshri and Dr. Abdusalam Rabaa. Woman with hard hat: Michelle Lavoie. Woman at gas station: Kelli Stevens.

**Page 3**, bottom photo: Greg Bruce.

**Page 7**, top photo, front row from left to right: Colin Cook, Sharon Mulligan and Fred Scharf. Back row from left to right: Andrew Stephens, Harry Roberts, Greta Raymond and Leon Sorenson. Missing from the photo: Don Clague, Bill Fleming, Graham Lyon and Alf Peneycad. Bottom photo, from left to right: John Roper, Hussain Sultan and Graham Lyon.

**Page 10**: Kailey Skorka and Dylan McCulloch.

**Page 11**, top photo, from left to right: Roland Herzog and Laura Van Holland.

**Page 12**, top photo, from left to right: Chris Dilger and Joseph Cheung. Bottom photo: Iqi Ahgook.

**Page 13**: Chantal Petitclerc and Boris Jackman.

**Page 14**, left to right: Don Jackson, Gerry Hewitt, Ron Fauth and Angela Varley.

**Page 19**: Grant Wheaton.

**Page 21**, top photo: Sunil Budwher. Bottom photo, from left to right: Walter Greening, Claude Fontaine and Jim Simpson.

**Page 24**: Chris Kemp.

**Page 25**, left to right: Garth Lockwood, Peter Telder, Greta Raymond and Lisa Lewington.

**Page 26**: Ashley Archer and Lauren Hill.

**Page 27**, top photo, left to right: Francois Langlois and John O'Hara. Bottom photo, left to right: Bert Abbas, Sidney van der Harst, Mike Parrée, Xander van Heesch, Rob van Eijk, Bauke Posthuma, Peter Kallos, Willem van Crimpen, Bert Schelling, Eddy Bouwer, Jan Wagenaar, Jan Houwen, Joran Oostra, Hans Sietsema and Henk van Vliet.

## HOW TO CONTACT US

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Design: Bhandari & Plater Inc. [www.bhandariplater.com](http://www.bhandariplater.com)

Photography courtesy of: Joëlle Opelik, Trudie Lee, Mark Zelinski, Rick Chard, Steven Evans, Chris Thomas, Kathy Scale, Jon Hamilton and Roth and Ramberg Inc.

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